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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,027	06/01/2000	Sedat Oelcer	SZ998-053	4764

7590 07/16/2003
Ronald L. Drumheller, Esq.
94 Teakettle Spout Road
Mahopac, NY 10541

EXAMINER

BAYARD, EMMANUEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 07/16/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/585,027

Applicant(s)

OELCER, SEDAT

Examiner

Emmanuel Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-7,9,11,12,14,16 and 17 is/are allowed.
- 6) ☒ Claim(s) 3,8,10,13 and 15 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because title of the invention "discrete multi tone transmission systems" and "figure 4" in line 20 must be delete. Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities: the specification does not provide the proper arrangement.

Appropriate correction is required.

3. The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

The following order or arrangement is preferred in framing the specification and, except for the reference to the drawings, each of the lettered items should appear in upper case, without underling or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) Title of the Invention.

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- (b) Cross-Reference to Related Applications.
- © Statement Regarding Federally Sponsored Research or Development.
- (d) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on compact disc (see 37 CFR 1.52(e)(5)).
- (e) Background of the Invention.
 - 1. Field of the Invention.
 - 2. Description of the Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) Brief Summary of the Invention.
- (g) Brief Description of the Several Views of the Drawing(s).
- (h) Detailed Description of the Invention.
- (I) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).
- (k) Drawings.
- (l) Sequence Listing, if on paper (see 37 CFR 1.821-1.825).

Claim Objections

- 4. Claims 13 and 18 are objected to because of the following informalities: in lines 11 and 17, delete "a" before said, respectively. Appropriate correction is required.

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Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3, 8, 10, 13, 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 3 and 13 recite the limitation "the perturbation" in lines 3 and 4, respectively. There is insufficient antecedent basis for this limitation in the claim.

8. Claims 3 and 15 recite the limitation "the resulting signal" in lines 10 and 4-5, respectively. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 8 recites the limitation "the Nyquist frequency" in line 2. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 10 recites the limitation "the lowest average" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Allowable Subject Matter

11. Claims 1-2, 4-7, 9, 11, 12, 14, 16 are allowed over the prior art of record.

12. Claim 18 would be allowable if rewritten or amended to overcome the above objection, set forth in this Office action.

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13. Claims 3, 8, 10, 13 and 15 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

14. The following is a statement of reasons for the indication of allowable subject matter: the present invention teaches a method for generating discrete multi tone. The cited prior arts below teach a similar method. However the cited prior arts fail to anticipate or render obvious the following recited features: defining, in each said expanded constellation, P-1 equivalent signal points for each signal point of the basic constellation, where each P-1 equivalent points is selected from redundant points in the opposite quadrant of the constellation to the corresponding point of the basic constellation and generating the discrete multi tone in said sample period by selecting, for each of said N_c subchannels, the modulation symbol representing either a basic constellation or a corresponding equivalent point such that the peak value of the signal does not exceed a predetermined threshold as recited in claims 1, 11 and 18 .

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tellado et al U.S. Patent No 6,512,797 B1 teaches a peak to average ratio.

Kaneko et al U.S. Patent No 5,822,323 teaches a frequency division multiplexed signal generating apparatus.

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Desjardins U.S. Patent No 6,483,869 B1 teaches a frequency decimated DMT modulation modem.

Herzberg U.S. Patent No 6,459,678 B1 teaches a system and method for providing near optimal bit loading in DMT modulation system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is (703) 308-9573. The examiner can normally be reached on Monday-Thursday from 8:00 AM - 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Emmanuel Bayard

Primary Examiner

July 11, 2003